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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/601,377	07/27/2000	GERHARD SCHMITT	21551	2311

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EXAMINER	
DUONG, THANH P	
ART UNIT	**PAPER NUMBER**
1764	

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/601,377	SCHMITT, GERHARD	
	Examiner	Art Unit	
	Tom P. Duong	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *7-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Applicant's remarks and amendments filed on November 01, 2005 have been carefully considered. Claims 1-6 and 12 have been canceled. Claims 7-11 are pending in this application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 7-8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mayers (2,958,298) in view of Priestley (4,021,184) and Flesch et al. (4,146,369). Regarding claims 7 and 11, Mayers discloses a reactor (12) for gasifying granular fuels (coal), which comprises: a casing (12); a reservoir (15) for holding the granular fuel and communicating with the inside of the casing; structure in said casing (12) for defining a fixed bed (11) of the granular fuel at al lower portion of which, an oxygen-containing gasification medium (air via line 14) is introduced, said gasification medium moving up through said fixed bed of granular fuel; a discharge duct (ducts extending upwardly from cyclone 16 to line 17) located above the fixed bed of granular fuel through which product gas (heated gas) containing hydrogen and carbon oxides is withdrawn from the reactor; and at least one centrifugal separator (cyclones 16) in said casing for

separating solids (Col. 4, lines 5-10) from the product gas (heated gas exiting line 17), having an inlet opening (not described but inherent feature of a cyclone device; see cyclone inlets 38 of Priestley '184) for dust-laden product gas coming from the fixed bed (11) of granular fuel, an outlet line (line 17) for product gas, and a solid discharge line (not shown but inherent feature of a cyclone device; see solid discharge conduits 43 and 44 of Priestley '184) leading into the fixed bed, said outlet line (ducts extending upwardly from cyclone 16 to line 17) communicating with the discharge duct (line 17). Mayers discloses fuel can be ignited by external means to initiate the combustion but fails to discloses a gas inlet for said gasification medium below said bed and admitting said gasification medium to said fuel for an endothermic reaction thereof with partial oxidation. Priestley teaches a plurality of gas inlets (fuel guns 31) penetrating the vessel wall to furnish the fuel for the reactor chamber (Col. 2, lines 34-36). Thus, it would have been obvious in view of Priestley to one having ordinary skill in the art to modify the combustor of Mayers with gas inlets as taught by Priestley in order to initiate and facilitate combustion of the granular fuel. With respect to the phrase "fixed bed", On page 1, third paragraph, of the original specification, Applicant merely discloses "As fuel, all kinds of coal are used including lignite and peat, to which various waste substances may be added." Mayers also discloses granular fuel source such as coal and lignite (Col. 4, lines 7-11) of the claimed invention and Priestley discloses the gasification or incineration of waste matter (Col. 1, lines 1-10). Alternatively, Flesch '369 makes it clear and teaches the concept of selecting a larger size gasification medium will allow the gassifier system to operate as a "fixed bed" and/or selecting a

smaller size gasification medium will allow the gassifier to operate as a "fluidized bed" (Abstract and Col. 1, lines 8-30). Thus, it would have been obvious in view of Flesh to one having ordinary skill in the art to modify the apparatus of Mayers with the larger fuel size as taught by Flesch, on the basis of suitability for intended use and absent showing any unexpected results since selecting a larger fuel size result in operating a reactor as a "fixed bed". Note, "expression relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim". See *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969), and the manner of operating the device does not differentiate apparatus claim from the prior art "if the prior art apparatus teaches all structural limitations of the claim. See *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter 1987). Therefore, the apparatus of the applied references discloses the structure of the claimed invention and is capable to operating as a "fixed bed" or as a "fluidized bed" depending on the selection of the fuel type. Regarding claim 8, Priestley discloses all the limitations as described above and further discloses outlet lines of the separators open into an annular chamber  disposed in the upper portion of the reactor, which annular chamber communicates with the discharge duct.

4. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over applied reference (Mayers '298 in view of Priestley '184 and Flesch '369) as applied to claim 7 above, and further in view of Angel (2,433,726). The applied references fail to disclose a vertical annular wall is provided in the upper portion of the reactor and the

inlet opening of the separator is disposed outside the portion of the reactor enclosed by the annular wall and the separator is disposed outside the portion enclosed by the annular wall. Angell teaches separators 22 are disposed outside the portion enclosed by the annular chamber (conical lower section 4), which has an inclined, vertical annular wall. Angell also shows the outlet line of the separators 22 is disposed in the header 25 (discharge duct) and the header 25 is communicated with the annular chamber (conical lower section 4) and the inlet opening of the separator is disposed outside the portion of the reactor enclosed by the vertical annular wall. The inclined, vertical annular wall isolates the vapors and gases (Col. 5, lines 26-35) in the header 25 from mixing with the incoming regenerating gas from line 13. Thus, it would have been obvious in view of Angell to one having ordinary skill in the art to modify the reactor of applied references with annular chamber having a vertical annular wall as taught by Angell in order to prevent intermixing of the vapors and gases from header with the incoming regenerating gas.

Response to Arguments

Applicant's arguments filed November 1, 2005 have been fully considered but they are not persuasive. Applicant argued the applied references fail to disclose or suggest "*an apparatus for gasifying granular fuels wherein the apparatus includes a distinct structural element, at least one centrifugal separator in said casing and at least partially surrounded in said bed for separating solids from the product gas, having an inlet opening located at least part above the fixed bed of granular fuel for dust-laden product gas coming from the fixed bed of granular fuel*". Examiner respectfully disagrees. Mayers discloses a

cyclone separators with inlet opening (inherent feature of a cyclone separator, see Priestley '184 for cyclone inlets 38) located in the "fixed bed" or "fluidized bed" of granular fuel depending the fuel type usage. Flesch '369 is cited to show the concept that the apparatus the applied references is capable of operating as a "fixed bed" or as a "fluidized bed" depending on the fuel type usage. The apparatus of the applied references discloses all the structural features of the claimed invention and thereby, is capable of operating both under a "fixed bed" and fluidized bed. With respect to the "*centrifugal separator in said casing and at least partially surrounded in said bed for separating solids from product gas*", it would have been obvious in view of the applied references to one having ordinary skill in the art to partially submerge the separators into the bed based on intended use in view of the absence of unexpected results. Note, a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claimed. See *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter 1987).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom P. Duong whose telephone number is (571) 272-2794. The examiner can normally be reached on 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Duong
December 30, 2005

TD

Glenn Caldarola
Supervisory Patent Examiner
Technology Center 1700